

**HIGH REFLECTOR TUNABLE STRESS COATING, SUCH AS FOR A  
MEMS MIRROR**

**ABSTRACT OF THE DISCLOSURE**

An optical device having a high reflector tunable stress coating includes a micro-electromechanical system (MEMS) platform, a mirror disposed on the MEMS platform, and a multiple layer coating disposed on the mirror. The multiple layer coating includes a layer of silver (Ag), a layer of silicon dioxide ( $\text{SiO}_2$ ) deposited on the layer of Ag, a layer of intrinsic silicon (Si) deposited on the layer of  $\text{SiO}_2$ , and a layer of silicon oxynitride ( $\text{SiO}_x\text{N}_y$ ) deposited on the layer of Si. The concentration of nitrogen is increased and/or decreased to tune the stress (e.g., tensile, none, compressive).